ELSEVIER

Volume 420, Numbers 1–2, 15 January 1997

JOURNAL OF ELECTROANALYTICAL CHEMISTRY

Contents

Preliminary notes

Detailed analysis of reaction kinetics and mechanisms of electrogenerated tetramethoxythianthrene cation radical and dication
M. Oyama, T. Sasaki and S. Okazaki (Kyoto, Japan) 1

Electrochemistry of monoazahemin reconstituted myoglobin at an indium oxide electrode
I. Taniguchi, Y. Mie, K. Nishiyama, V. Brabec, O. Novakova (Kumamoto, Japan), S. Neya and N. Funasaki (Kyoto, Japan) 5

The temperature dependence of hydrogen and anion adsorption at a Pt(100) electrode in aqueous H_2SO_4 solution
A. Zolfaghari and G. Jerkiewicz (Sherbrooke, Que., Canada) 11

Performance of a co-electrodeposited Pt–Ru electrode for the electro-oxidation of ethanol studied by in situ FTIR spectroscopy
J.P.I. Souza, F.J. Botelho Rabelo, I.R. De Moraes and F.C. Nart (São Carlos, Brazil) 17

Towards the electrochemical manufacture of superconductor precursor films in the presence of an ultrasonic field
K.A. Richardson, P.A.J. De Groot, P.C. Lanchester, P.R. Birkin and P.N. Bartlett (Southampton, UK) 21

Uncommon behavior of the p-GaAs electrode during the reduction of oxygen in liquid acidic ammonia
A.-M. Goncalves, C. Mathieu, M. Herlem and A. Etcheberry (Versailles, France) 25

M–SPE composite powder microelectrodes used in organic electrosynthesis
J.-h. Jiang, B.-l. Wu, C.-s. Cha and Y.-Q. Zhou (Wuhan, People's Republic of China) 31

Regular papers

Differential cyclic voltabsorptometry and chronoabsorptometry studies of ion transfer reactions at the water|1,2-dichloroethane interface
Z. Ding, R.G. Wellington, P.-F. Brevet and H.H. Girault (Lausanne, Switzerland) 35

Characterization of electrodeposited Co + Ni alloys by application of the ALSV technique. Professor Aleksandar Despic to commemorate his 70th birthday.
V.D. Jović, N. Tošić and M. Stojanović (Belgrade, Yugoslavia) 43

Diffusion-controlled current densities close to a right-angled electrode edge
K.B. Oldham (Peterborough, Ont., Canada) 53

Electrochemical reduction of nitrotetralones
J.A. Squella, M. Huerta, S. Bollo, H. Pessoa and L.J. Núñez-Vergara (Santiago, Chile) 63

Quantum calculations on the adsorption of halide ions on the noble metals
A. Ignaczak and J.A.N.F. Gomes (Porto, Portugal) 71

Electroreduction of the hydrazide of maleic acid in aqueous solutions
M. Shibata and P. Zuman (Potsdam, NY, USA) 79

An ac voltammetry study of Pt oxide growth
M.E. Van der Geest, N.J. Dangerfield and D.A. Harrington (Victoria, B.C., Canada) 89

Simulation of anodic Pt oxide growth
D.A. Harrington (Victoria, B.C., Canada) 101

The time-resolved EQCM and study of the kinetics of silver(I) oxide formation on a polycrystalline silver electrode in alkaline solution
S.-l. Chen, B.-l. Wu and C.-s. Cha (Wuhan, People's Republic of China) 111

Oxidation of ascorbate and ascorbic acid at the aqueous|organic solution interface
M. Suzuki, S. Umetani, M. Matsui and S. Kihara (Kyoto, Japan) 119

Electrochemical study of catechol and some 3-substituted catechols in the presence of 4-hydroxy coumarin: application to the electro-organic synthesis of new coumestan derivatives
S.M. Golabi and D. Nematollahi (Tabriz, Iran) 127

Relaxation photocurrent at the electronic emission from lithium into the surface passivating film
E.S. Nimon, A.V. Churikov (Saratov, Russia) and Yu.I. Kharkats (Moscow, Russia) 135

How accurate is your two-dimensional numerical simulation? Part 1. An introduction
D.J. Gavaghan (Oxford, UK) 147

Voltammetric and electrogravimetric study of manganese dioxide thin film electrodes. Part 1. Electrodeposited films
B.L. Wu (Thiais, France), D. Lincot, J. Vedel (Paris, France) and L.T. Yu (Thiais, France) 159

On the understanding of the reduction of sulfur (S_8) in dimethylformamide (DMF)
E. Levillain, F. Gaillard, P. Leghie, A. Demortier and J.P. Lelieur (Lille, France) 167

Investigation of the origin of the glucose response in a glucose oxidase|polyaniline system
N.G. Skinner and E.A.H. Hall (Cambridge, UK) 179

Configurational stabilization of mixed-valence states in the star-burst tetranuclear ruthenium complex bridged with acetylene links
K. Aoki, H. Kamo, J. Chen (Fukui-shi, Japan) and Y. Hoshino (Hiroshima, Japan) 189

Intramolecular electron transfer within a water-soluble, ferrocene-labeled polyacrylate
O. Hatozaki and F.C. Anson (Pasadena, CA, USA) 195

Photoelectrochemical behavior of coupled SnO_2|CdSe nanocrystalline semiconductor films
C. Nasr (Trois-Rivières, Que., Canada), P.V. Kamat (Notre Dame, IN, USA) and S. Hotchandani (Trois-Rivières, Que., Canada) 201

A theoretical study of the interaction of water molecules with the Cu(100), Ag(100) and Au(100) surfaces
A. Ignaczak and J.A.N.F. Gomes (Porto, Portugal) 209

EQCM studies on polypyrrole in aqueous solutions
Q. Xie, S. Kuwabata and H. Yoneyama (Osaka, Japan) 219

Resolution of global signals using ratio differential pulse polarograms: determination of *p*-nitroaniline and *p*-nitrotoluene in their mixture
Z. Grabarić, B.S. Grabarić, M. Esteban and E. Casassas (Barcelona, Spain) 227

A theoretical analysis of the kinetics of reductive cleavage of the carbon–halogen bond in *tert*-butyl halides in polar solvent
E.D. German (Haifa, Israel), A.M. Kuznetsov and V.A. Tikhomirov (Moscow, Russia) 235

Permselectivities and ion-exchange properties of organically modified sol–gel electrodes
C.C. Hsueh and M.M. Collinson (Manhattan, KS, USA) 243

An impedance study of electron transport and electron transfer in composite polypyrrole + polystyrenesulphonate films
X. Ren and P.G. Pickup (St. John's, Newfoundland, Canada) 251

Electrochemical reduction of 3-phenyl azo-2,4(3*H*,5*H*)-furandione at the DME
A.M.A. Helmy (Elmansoura, Egypt) 259

Gibbs functions for transfer of divalent metal cations from water to water + methanol mixtures using potentiometry, polarography and solubility measurements
M. El Marackchi, C. Tissier and J. Juillard (Aubière, France) 267

Electron transfer of horse spleen ferritin at gold electrodes modified by self-assembled monolayers
T.D. Martin, S.A. Monheit, R.J. Niichel, S.C. Peterson, C.H. Campbell and D.C. Zapien (Denver, CO, USA) 279

Solvent and double-layer effects on redox reactions in self-assembled monolayers of ferrocenyl–alkanethiolates on gold
S.E. Creager and G.K. Rowe (Bloomington, IN, USA) 291

Short communication

In situ Fourier transform infrared attenuated total reflection (FTIR-ATR) spectroscopic investigations on the base–acid transitions of different forms of polyaniline. Base–acid transition in the leucoemeraldine form
Z. Ping (Athens, GA, USA), G.E. Nauer, H. Neugebauer and J. Theiner (Vienna, Austria) 301

Erratum

Corrigendum to "Chronoamperometry of uncharged species in the presence of a very low concentration of supporting electrolyte. A simulation". [J. Electroanal. Chem., 407 (1996) 75–81]
A. Jaworski, M. Donten and Z. Stojek (Warsaw, Poland) 307

Announcement 309

Author Index 311

Subject Index 313

The table of contents of the Journal of Electroanalytical Chemistry is included in ESTOC – Elsevier Science Tables of Contents services – which can be accessed on the Word Wide Web at the following URLs:
http://www.elsevier.nl/locate/estoc or http://www.elsevier.com/locate/estoc